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## Editorial: Why the experimental method is the ideal tool for studying consumer research in online environments

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### 1 Introduction

It is a pleasure to introduce our special issue 'Experimental Research in e-Marketing' for publication in IJIMA. Although several papers using the experimental method can be found peppered throughout the marketing literature, we felt that after roughly a decade of research in the area of electronic marketing, the time was ripe for a journal issue dedicated exclusively to experimental approaches.

Indeed, several studies in the recent past have mostly relied on survey research or limited observations of consumer/user/viewer behaviour to draw limited conclusions in noncontrolled environments. Although these offer valuable insights at the exploration

stage, they tend to be descriptive of particular situations or contexts, and hence offer limited generalisability for future research. Our main purpose for the special issue was to uncover research studies where conditions of exposure had been manipulated under the strict requirements of the experimental method, using either lab settings or active online sites and storefronts. We urged authors to submit empirical manuscripts that used the experimental method to either test existing theories or assist in theory building in the broad area of electronic marketing.

Some of the often cited sources in the field have used experimental designs in their methodology. Dellaert and Kahn (1999) examined the impact of waiting times on consumer perceptions of a website (remember the good old days of dial-up?). Coyle and Thorson (2001) and Fortin and Dholakia (2005) explored what the effects of interactivity and vividness might have on user responses to an online storefront. Mandel and Johnson (2002) altered the look and feel of a website with simple changes, such as rotating the design of a wallpaper background, generating significantly different responses to the stimulus. Ratchford *et al.* (2003) looked at the impact that information search can have in the decision process of consumers shopping to buy a new automobile.

As the sophistication level of online portal sites and storefronts continues to escalate, so does the richness of information that can be found in user visit and transaction databases. This usually translates into huge amounts of information chunks for which we are just beginning to take advantage of through data mining techniques. But most importantly, these online environments provide an everyday laboratory in which we have the opportunity to test and experiment with variations in interface design, promotional offers, pricing strategy, navigation gateways, *etc.* In this respect, even the smaller players in the market can engage in elaborate consumer research using their own environments as lab settings at a relatively low cost. However, such experiments should be closely monitored to avoid potential consumer backlash if this affects them in a negative or unfair way; Amazon.com was criticised for slightly altering prices for its products in real-time without informing its customers beforehand (Turow, 2005). For academics, real-time access to these online settings can be gained through agreements with online partners. However, if this is not possible, realistic settings can also be re-created in a lab environment which minimises the demand artefact effects of past research using pencil and paper. Several university-based research labs have been able to do this across the world such as the e-Lab at Vanderbilt, the MindLab at Michigan State University, the Media Research Lab at the University of Texas at Austin, the MediaLab at MIT and the Web-Lab at the University of Canterbury.

## **2 In this issue**

Three of the four papers retained here for this special issue utilised an experimental design to allocate participants to laboratory conditions that recreated facsimiles of realistic web-based environments. The fourth paper used a quasi-experiment to examine data recorded from real market conditions and factors that occurred on a major web-based consumer auction site.

In the first paper by Nantel and Sénécal (The effect of counterproductive time on online task completion), the authors investigate what they label as “counterproductive time spent on a website” and how this affects consumers’ ability to complete a specific online task. Two hundred and twenty-eight consumers were asked to perform a task

on predetermined websites. Participants were recruited from major consumer-driven websites in collaboration with key partners. Their innovative and realistic environment used as stimulus material is measured against clickstream data and verbal protocols collected. Their conclusions provide key insights on the effects of time spent on a website and is supported by solid empirical evidence.

In Ballantine and Fortin's paper 'The effects of interactivity and product information on consumers' emotional responses to an online retail setting', the authors examine how two aspects of an online shopping environment can influence the emotional states of consumers, and how these emotions subsequently affect their intentions to purchase products online. A web-based experiment (using a  $3 \times 3$  between-subjects factorial design) was conducted, where respondents were exposed to a simulated online retail store. A total of 360 responses were collected from web users. The two independent variables examined were level of interactivity and amount of information. Emotion was measured using the two emotional states of pleasure and arousal. Results suggest that a linear relationship exists between the level of interactivity provided by an online store and pleasure. Moreover, pleasure (and in some cases arousal) was found to be a significant predictor of the likelihood that a consumer would purchase products online. This study builds on the work of Coyle and Thorson (2001) and provides solid empirical evidence to support the development of a conceptual model that will be further refined by future replication studies.

In 'Need for cognition: understanding the influence of individual differences on virtual product experiences', Daugherty looks at Three-Dimensional (3D) product visualisation as a new form of virtual product experience that enables consumers to simulate consumption experiences online. Using a laboratory experiment, the influence of individual characteristics (Need for Cognition (NFC)) and product experience on brand attitude is examined. The realism of the virtual experience here is enhanced by the 3D setting and the opportunity for the participants to explore a product under different angles via a web-based interface. The results indicate that consumers high in NFC report more favourable brand attitudes during virtual experience evaluations than from direct experience.

Finally, Brown *et al.* use a broad range of publicly available data from a major auction site to explore the determinants of auction effectiveness in 'The effects of contextual cues on online auction outcomes: a quasi-experimental approach'. Data was gathered by observing 431 real online auction site transactions, over four product categories of DVD movies, books, computers and cars, reflecting high versus low personal involvement categories. Key findings suggest that seller reputation is important for high involvement goods and impacts on the final selling price, as does the starting price for low involvement goods. In addition, there appears to be a direct correlation between the number of bids and the level of interest in the auction for all product categories examined in this study. These findings provide some empirical evidence about the influence of selected auction characteristics on the auction's final outcome, using real-world transactions on a large online auction site. It also uses a quasi-experimental method which is useful when examining large datasets in a *post-facto* approach as pioneered by Campbell and Stanley (1963).

### 3 Directions for future research

As the penetration rate of web access and utilisation continually increases, the use of web-based services for information access, shopping, communicating and exchange is becoming as ubiquitous as using the traditional land-based telephone. As such, the novelty of using a new medium has already worn off and the increasing pressures on time resulting from information overload and out-of-control spam is likely to make users and consumers less tolerant of inefficiencies in the use of their interfaces. Hence, future research should look at how we can design and construct such systems so that they facilitate and optimise either the shopping or browsing experience for the end user. There is much to be learned from the retailing literature which has examined several aspects of contextual configurations in brick-and-mortar situations. We might learn much from the 'store atmospherics' literature and develop further experiments to gain insights on how consumers interact with a setting that is confined to the limits of a computer screen.

### 4 Selection process

Papers accepted for review in this special issue were required to adopt an experimental and empirical approach. They were judged according to IJIMA standards and underwent a thorough review process. Submissions were evaluated on the basis of originality, contribution and rigour, using a double-blind system. The selected articles for this issue represent an acceptance rate of 33% based on all the submissions received.

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